Research for People — IDRC's Experience in Forestry Research

by

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Abstract

Changing perceptions of the importance of trees and forests in the developing world are, in turn, stimulating increased activity in forest research. Within this context, the role of the International Development Research Centre (IDRC) in supporting such research over nearly two decades is described. IDRC's approach is quite different from that of most donor agencies. Its philosophy is based on two overriding concepts: first, that the research it supports should benefit the poor people of the world; and, second, that the research should be planned and carried out by scientists of the developing countries. Drawing on past experience, alternative strategies for future support are discussed.

Résumé

Nos perceptions changeantes de l'importance des arbres et des forêts dans le monde en développement se traduisent par une intensification des activités dans le domaine de la recherche forestière. Dans ce contexte, la publication décrit le rôle du Centre de recherches pour le développement international (CRDI) à l'appui de la recherche forestière au cours des vingt dernières années. L'approche de CRDI est tout à fait différente de celle de la plupart des autres organismes subventionnaires. Sa philosophie se fonde sur deux principes fondamentaux: premièrement, recherche financée par le Centre doit profiter aux pauvres dans le monde; et deuxièmement, elle doit être planifiée et exécutée par des scientifiques des pays en développement. A partir de l'expérience passée, l'auteur analyse des stratégies de rechange pour le soutien futur de la recherche.

Forest Research in the Developing World

During the past decade, many developing countries have ncreasingly recognized the importance of forests and trees n sustaining agricultural output, combatting the energy crisis, ınd contributing to the livelihood of rural communities. To his recognition can be added concern, if not alarm, in the leveloped world over the scale and pace of destruction of ropical forests and its effects on the global environment.

This changed insight of the importance of forests and rees has resulted in several international initiatives to stimuate increased activity in forestry development and research. Notable among these are the Tropical Forest Action Plan ponsored by the United Nations Development Programme UNDP), the International Union of Forestry Research Organiation's (IUFRO) Special Program for Developing Countries, ınd the recent decision by the Consultative Group for Interıational Agriculture Research (CGIAR) to include forest esearch within its mandate.

Over the past decade, only 0.1% of the value of forest roducts from developing countries has been spent on esearch. The equivalent figure for agriculture is 0.5%. Of levelopment aid to the forestry sector, only 5% has been lirected as research, whereas 10% of development aid for agriculture has been for research. These values give a measure of the low priority of forest research, not only by aid agencies but also by national governments.

Hopefully, the changing attitudes and new world-wide initiatives will substantially shift the balance in favour of forestry, and of research. However, it is perhaps interesting to consider why forestry research has, until now, received so little regard or support in the developing world. I would suggest some of the reasons include:

- The scarcity of quantifiable data to demonstrate the benefits that can be derived from research;
- The long-term nature of forestry research — both national governments and donors seek shorter delivery times for benefits;
- The failure by researchers to define researchable problems rigorously and to set priorities;
- The dissociation of researchers from the rural community and their problems — researchers often view forest managers, not people, as their clients;
- The foresters' concept of the forest, rather than the land on which it grows, as the resource with consequent failure to adequately demonstrate the potential role of trees in land-use systems research; and
- The institutional weaknesses in the developing countries, particularly in the continuum between pure forestry and pure agriculture research.

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Changes in the attitudes of foresters and researchers working in the developing world are needed if the momentum of the world's recent awakening to the importance of forestry is not to be lost. The purpose of this paper is to describe how the International Development Research Centre (IDRC) is attempting to participate in this changing approach to tropical forestry research.

Research for People

In supporting research in forestry and other fields, IDRC's philosophy is governed by two overriding concepts: first, that the research supported be for the benefit of the poor people of the world, and second, that the research be carried out by national institutions and by the efforts of scientists in the developing countries to solve their own problems and, at the same time, build and strengthen their research capacity. The strategy is to respond to national requests for support, not to try to impose a developed world's view of their problems, nor to attempt to propose national research agendas.

Thus in forestry, as in other fields, IDRC has an approach that, if not unique, is quite different to most donor agencies. It recognizes the need for adaptive, rather than basic, research for solving problems and exploring opportunities. At the same time, IDRC's approach brings with it certain risks. By depending wholly on national scientists to undertake the research, local factors such as staff changes, failure of infrastructure, or social unrest may impede research efficiency and delay, or even prevent, the delivery of the desired product. Nevertheless, IDRC continues to believe that well-conceived national research will be more beneficial and enduring than imported expertise or, at least in most cases, direct technology transfer.

The weaknesses of classic professional approaches to research have been described by Cearna (1985), Chamber (1986), and Fortmann and Fairfax (1989). All three papers stress the need to put people first, not only in identifying problems, but also in designing dissemination strategies. Applying IDRC's approach, I translate these ideas into three basic questions that we should ask ourselves in considering any request for support for forestry research: What do we hope to change? Who will benefit? and How will the product be delivered to the users?

Unless we can find realistic answers to these questions, and answers that relate directly to the poor, we shall not be fulfilling IDRC's mandate. Here it should be remembered that until recently, IDRC related specifically to the rural poor. Recent estimates indicate that by the year 2000, more than half the world's population will be urban — already 65% is in Latin America. Not surprisingly, IDRC now seeks to benefit both the urban and rural poor. To benefit the urban poor is not easy for a forestry program. The mission statement of IDRC's Agriculture Division, of which the Forestry Program forms part, is:

To help ensure access to food and other basic necessities for the individual through the sustainable use of renewable natural resources. For IDRC's Forestry Program, this mission is being achieved by giving priority to:

- Community rather than industrial forestry;
- Increased or alternative incomes for the poor;
- Adaptive rather than basic research;
- Activities leading to vertical spreading of research results (i.e., to people) rather than horizontal (to other scientists or administrators); and
- Coordination of national programs by networking.

The IDRC Experience

Over the past 19 years, IDRC's Forestry Program has supported nearly 200 national projects in developing countries. Support has been entirely by grants, which have totaled over $38 million. Funding for individual projects has varied from $15,000 to $1.5 million, but for an average project, or single phase of a longer-term project, it has been around $200,000.

Projects have been supported in 50 countries, distributed fairly evenly throughout the developing world. Africa has received 40% of support, and Asia and Latin America 30% each. Although IDRC is not one of the major world agencies supporting forestry research, its contribution has been significant, not only because support is in the form of grants as opposed to loans, but also because of its distinctive approach to support. Only the programs of the Australian Centre for International Agricultural Research (ACIAR) and the Swedish Agency for Research Cooperation with Developing Countries (SAREC) have similar philosophies.

To date, most of the projects have been supported through national forestry or agricultural research institutes. Within these, some common strengths and weaknesses can be identified. Among the strengths are the ability to relate research to development needs and the close involvement of local staff. The weaknesses include a lack of trained staff, limited and unstable funding, poor infrastructure, and a tendency to duplicate research already in progress elsewhere. To strengthen national research capacities requires training the staff at appropriate levels to undertake research, providing adequate operational funds and equipment (in many developing countries local research budgets are only sufficient to pay staff salaries), and facilitating contact and collaboration between institutions.

Given the limited money available, it is obvious that IDRC cannot hope to provide funding of all areas of tropical forestry research. To achieve impact, support must be focused. IDRC has, therefore, consciously chosen to concentrate its efforts to support projects in the following fields, or subprograms:

- *Integrated Production Systems* — research related to the potential assistance of trees to sustainable agricultural yield, including the productive and protective roles of trees in land-use management;
- *Fuelwood and Energy* — research related to the energy needs of the population by increasing biomass yield and promoting its more efficient use;
- *Forest Management and Production* — research leading to more effective management of tropical forests and genetic improvement of tree species; and
- *Forest Product Utilization* — research leading to improved and more efficient use of forest products.

We recognize that other important areas of research, such as protection, inventory and plantation forestry, also have strong claims for support. However, we feel that they are less closely related to IDRC's mission. Even in our chosen fields of concentration, support has not been equal. Thus the subprogram for Integrated Production Systems accounts for 40% of the the total support, and in recent years has been

as high as 50%, whereas Forest Management and Production, Fuelwood and Energy, and Forest Product Utilization have received 25, 20, and 15% respectively.

Within these four areas of priority support, collaboration with Canadian research institutes and universities is encouraged and sponsored through joint projects. Canada's considerable expertise in the fields of timber technology, mycorrhizae, and microbiology is particularly relevant. Collaborative projects link the universities of Toronto, Laval, and New Brunswick with corresponding research institutions in developing countries. Greater detail of the subprograms will show better how IDRC participates in tropical forestry research.

Integrated Production Systems

Shifting cultivation, that is, slash-and-burn agriculture, is still the predominant form of land use in much of the tropics. The system works well when periods of bush fallow are sufficiently long to allow the soils time to recover fertility. Increasing population pressure, however, has reduced the periods of fallow and led to progressive decline of the soils. Agroforestry systems, in which trees or shrubs are grown on the same land as agricultural crops or animals, offer a more efficient and sustainable use of the land. The woody species not only contribute to maintaining soil fertility and reducing erosion, but also provide animal forage, fuelwood, building materials, shade, windbreaks, and fruit for human consumption. Introducing native fruit trees into farming systems is particularly promising because it offers farmers a new source of income that will give a relatively rapid return.

Long-term research programs are being supported in Africa (Botswana, Cameroon, Ghana, Kenya, Malawi and Zimbabwe), Latin America (Brazil, Colombia, Costa Rica, Mexico and Peru), and Asia (China, India and Nepal). IDRC has also maintained its support for the Nairobi-based International Council for Research in Agroforestry (ICRAF), which provides technical resources and guidance to national projects throughout Africa.

Fuelwood and Energy

Fuelwood and charcoal remain the principal source of energy in most developing countries: in Africa, wood provides 90% of the population's energy requirements. Expanding populations have inevitably resulted in overuse of the natural woodlands, especially in drier areas, and in a critical shortage of fuelwood.

To combat this problem, research to identify fast-growing tree species and to develop techniques to establish them has been supported, as well as research on technologies to improve the efficiency of wood-based energy systems. The Fuelwood and Energy Subprogram is focused on initiatives for community forests in Africa where the energy problem is most acute. Research has been supported in 10 countries of anglophone and francophone Africa. At the same time, projects to address the problem in the Andean countries of Latin America have received support.

Forest Management and Production

This subprogram is centred on research on bamboo and rattan in Asia. Both these groups of plants, long considered as noncommerical, minor forest species, are of enormous importance in the rural and national economies of many Asian countries. Their uses are legion. Bamboo and rattan products form an essential element of the day-to-day life of the people of the region. They are also the basis of thriving cottage industries and, in the case of rattan, a well-developed export market valued at $2 billion per year. Bamboo shoots are not only an important food source for the local population, but are also rapidly finding a worldwide market. For both bamboos and rattans, abuse of the natural resource has led to a state where supply cannot meet demand.

In spite of their importance, bamboos and rattans received little scientific attention until very recently. IDRC can claim to be one of the pioneers in promoting research in this field. Fifteen projects in nine Asian countries are currently supported. These are linked in an informal, but effective regional network that coordinates national projects, and facilitates the sharing of results.

Forest Product Utilization

For centuries, the forests of the humid tropics have been exploited for only a few marketable species. This highly selective logging has resulted in the destruction and waste of many potentially valuable species that are discarded or burned in subsequent land clearing for colonization. This waste is largely a result of ignorance of the properties and potential uses of these secondary timbers.

In an attempt to fill this gap, IDRC has supported several projects in Latin America that are aimed at describing and quantifying the characteristics of timbers that are now noncommercial, and promoting their use in low-cost housing. The largest of these projects linked the five countries of the Andean Pact in a collaborative program.

Also within the field of forest products, research on producing natural gums and resins has received support. Such products can provide alternative income sources for the gatherers. Gum arabic in Senegal and Uganda, and tannins in Chile are examples of projects in this field.

The Way Ahead

That IDRC will continue to support forestry research in the developing world is not at question. What we must ask ourselves, however, is whether such support should be more of the same, or should we apply the lessons of nearly two decades of experience and adapt to the changing needs and scenario of our Third World partners? Clearly a rethinking of several aspects of our program is timely. Some of the issues that we must consider fall under three headings: method of support, use of results, and focus of support.

Method of Support

Continued use of the project system as the mechanism of support can be contrasted with a wider use of institutional support packages to strengthen the capacity of selected institutes with proven track records. The common, and only, argument in favour of the project mode is that no one has come up with anything better. Is it not time to try alternative approaches?

Use of Results

Delivery and application of research results must receive greater emphasis. Experience has shown that in the past, extension of the results has often been poor. Several aspects must be considered. First, problem identification — research into problems perceived by potential users of the results is more likely to be applied than research directed at needs as perceived by scientists. Such responses to demand are more likely to be effective than attempts to market research results to users who do not themselves perceive the problem.

Second, scientists have a natural tendency to want to perfect their research before promoting it, but this tendency should perhaps be questioned. To promote marginal and partial benefits requires courage of the researcher, but to do so can be of immediate advantage to users or governments. Often, the need is for "Best-bet" rather than "Safe-bet" solutions to pressing problems. Third, it appears that if IDRC seeks a wider application and greater impact from the research it supports, it should perhaps be prepared to continue support through to the pilot development stage, rather than terminate with a series of sound but unused research reports. Follow-up activities by other donors, for example, the Canadian International Development Agency (CIDA), could assist in this.

Focus of Support

The need for sectorial concentration is already appreciated. Given past experience, is there not an equally valid case of a geographical concentration of IDRC's efforts? Our role is to support research yet, in many of the world's poorest countries, research capacity — at least in forestry —is virtually nonexistent. This poses a dilemma. Whether to continue applying a share of our scarce resources to the poorest countries and accept a lower return, or to increase the focus on middle-tier countries, which certainly have their share of urgent researchable problems, but already possess a reasonable national capacity to undertake research?

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